

ABSTRACT

A new austenitic stainless steel contains 0.1-1.0 mass % of Si and not more than 0.003 mass % of Al. Nonmetallic inclusion dispersed in a steel matrix is converted to $\text{MnO-SiO}_2\text{-Al}_2\text{O}_3$ containing not less than 15 mass % of SiO_2 and not more than 40 mass % of Al_2O_3 . During steel making, molten steel is covered with basic slag and strongly deoxidized with a Si alloy whose Al content is controlled not more than 1.0 mass % in a vacuum or non-oxidizing atmosphere. The austenitic stainless steel sheet can be formed to an objective shape without occurrence of cracking due to its less crack-sensitivity and good formability.

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